

## **Release Notes for Preliminary Vintage 2010 Estimates**

These preliminary Vintage 2010 population estimates reflect three major improvements in the estimates methodology for the production of the national, state, county, and Puerto Rico total population estimates. In summary, these improvements include changes in: 1) the estimation of net native migration for the nation, states, and counties; 2) the estimation of deaths by age, sex, race, and Hispanic origin for the nation; and 3) the estimation of net international migration for Puerto Rico. We also produced estimates for April 1, 2010 for comparison with the 2010 Census counts.

### **Improvements**

#### **1. Estimation of Net Native Migration for the Nation, States, and Counties**

For Vintage 2010, we updated our estimate of the net migration of natives (a component of net international migration). The revised estimate incorporates more extensive and recent data.

In Vintage 2009, we based our estimate of the net migration of natives on levels observed in the 1990s.<sup>1</sup> The estimate was developed using data from the State Department and census data from 16 countries. Net native migration was estimated by using the change in the stock of the U.S. native population in consecutive censuses, and included a modification for net native migration to and from other countries.

The updated Vintage 2010 estimate of net native migration incorporates data from 84 countries including more recent data where possible.<sup>2</sup> As in Vintage 2009, net native migration is based on the change in stock of U.S. natives in consecutive censuses for each of the countries included in the research.

#### **2. Estimation of Deaths by Age, Sex, Race, and Hispanic Origin for the Nation**

The Vintage 2010 improvement in the estimation of national deaths by age, sex, race, and Hispanic origin completes enhancements begun in Vintage 2009 processing.

In Vintage 2009, we improved the distribution of deaths for the population aged 70 and over.<sup>3</sup> Prior to these enhancements, the number of deaths occurring to age groups was determined by a fixed schedule of mortality rates developed in the late 1990s, controlled only to the total number of deaths reported by the National Center for Health Statistics (NCHS). For Vintage 2010, we adopted the use of actual reported deaths by single year of age (0 to 69) and aged 70 and over for large race and Hispanic origin categories. The latter were then distributed by age using age-specific death rates derived from a mid-decade life table (2005) adopted from the Office of the Actuary of the Social Security Administration.<sup>4</sup>

### 3. Estimation of Net International Migration for Puerto Rico

For Vintage 2010, the estimate of net international migration for Puerto Rico was developed using data from the American Community Survey (ACS) and Puerto Rico Community Survey (PRCS). The methodology used is similar to that used for the United States.<sup>5, 6</sup> Net migration between Puerto Rico and the United States is estimated in two parts, immigration and emigration. A respondent's current residence is compared to his or her residence one year ago to ascertain migration status. Those living in Puerto Rico who lived in the United States one year ago are considered immigrants to Puerto Rico. Those living in the United States who lived in Puerto Rico one year ago are considered emigrants from Puerto Rico. Net migration is calculated by subtracting emigrants from immigrants. For 2000 through 2004, when data from the PRCS were not available, a base estimate of net migration between the United States and Puerto Rico for 2000 was established and a linear interpolation between the 2000 net estimate and the 2005 net estimate was used to generate estimates for 2001 through 2004. For 2000 to 2005, estimates of migration for the group quarters population were calculated by multiplying the household component for those years by the ratio of group quarters to household net migration for 2006 to 2009.

### Estimation of April 1, 2010 Resident Population for the Nation, States, and Counties

For Vintage 2010, we updated our current state and county methodology to produce population estimates as of April 1, 2010, in order to allow for direct evaluation with Census 2010 population counts. We utilized our standard methodology to produce annual July 1, 2000 to July 1, 2010 population estimates based on the updated Census 2000 data and the components of change (births, deaths, international migration, and domestic migration) occurring each year. To estimate the April 1, 2010 population, we began with the July 1, 2009 population and estimated the components of change that occurred in the intervening nine months.

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<sup>1</sup> Gibbs, J., G. Harper, M. Rubin, and H. Shin, 2003, "Evaluating Components of International Migration: Native-Born Emigrants," Population Division Working Paper No. 63  
<http://www.census.gov/population/www/documentation/twps0063.html>.

<sup>2</sup> Schachter, J. 2008. "Estimating Native Emigration from the United States," Memorandum dated December 24, delivered to the U.S. Census Bureau.

<sup>3</sup> This methodology is described in Vintage 2009 Release Notes which can be accessed at:  
<http://www.census.gov/popest/topics/methodology/2009-est-relnotes.pdf>.

<sup>4</sup> The life table and associated documentation are located at:  
<http://www.ssa.gov/policy/docs/statcomps/supplement/2009/4c.html#table4.c6>.

<sup>5</sup> For the methodology used in Vintage 2009, see *Methodology for the Puerto Rico Commonwealth and Municipio Population Estimates by Age and Sex (Vintage 2009): April 1, 2000 to July 1, 2009*, which can be accessed at:  
<http://www.census.gov/popest/topics/methodology/2009-pr-meth.pdf>.

<sup>6</sup> This methodology is described in *Methodology for the United States Resident Population Estimates by Age, Sex, Race, and Hispanic Origin (Vintage 2009): April 1, 2000 to July 1, 2009*, which can be accessed at:  
<http://www.census.gov/popest/topics/methodology/2009-nat-meth.pdf>.